

# ENTOMOLOGICAL NEWS

VOL. 79

JULY, 1968

No. 7

## A Preliminary Revision of the Genus *Tropihypnus* (Coleoptera, Elateridae)<sup>1, 3</sup>

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The known species of *Tropihypnus* are found on the fringes of the Himalayas and adjacent mountain ranges. The few specimens available have enabled me to compile the information that follows.

### TROPIHYPNUS

*Tropihypnus* Reitter, 1905, p. 9; Schenkling (1925, pt. 80, p. 216); Fleutiaux (1932, p. 254); Gurjeva (1963, p. 31).  
*Crypnoidus* Fleutiaux (1928, p. 252), (1930, p. 31).

*General*.—Length 4–6 mm; shape either elongate and parallel-sided or attenuate towards elytral apices, body flattened to convex; color orange to fuscous or piceous; punctuation and pubescence variable, but vestiture of venter normally with additional subvestiture of minute, wiry, lightly flavous setae.

*Head*.—Frons generally flat, frontal margin variable, but always completely and strongly ridged. Antennae reaching pronotal hind angles; scape normally twice size of pedicel; pedicel cylindrical, generally shorter than third; fourth to sixth segments feebly serrate; seventh to tenth segments doubly serrate; last segment oblong. Last segment of maxillary palpi somewhat securiform, oblong.

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<sup>3</sup> Accepted for publication February 14, 1968.

*Thorax*.—Pronotum generally wider than long, moderately arcuate on sides, with prominent front and hind angles; strong sharp carina extending along outer edge from hind angles to inner side of anterior angles, while gradually diverging from outer (lateral) carina of pronotum; weak carina on inner side at base; disk flat to convex, median impression usually obsolete; punctation and rugosity various; pubescence directed cephalad. Pleural region generally more punctate and opaque than prosternum, both generally micropunctate; setae of both directed cephalad, and with additional sparse subvestiture of flavous, decumbent, minute setae. Prosternum prominent, prosternal sutures straight, single, and with broad carina along anterior edge and sides. Tarsi and claws simple. Scutellum variably flat to convex, oblong. Elytra about twice as long as wide; striae deeply punctate, especially in humeral area; intervals more moderately punctate.

*Abdomen*.—Always fairly uniform in appearance, with moderate to dense punctation; vestiture sparse, scattered setae intermixed with dense subvestiture of minute setae.

*Male genitalia*.—Trilobate, fused or free. Generally rather stout, with notable exceptions.

*Female genitalia*.—Saccular, membranous. Bursa copulatrix either single or subdivided. Colleterial glands present, variable in size and position. Accessory gland present, prominent, and tuberculate.

Larvae and pupae unknown.

*Discussion*.—This genus is distinguished by its complete frontal carina, oblong scutellum, prominent prosternum, and broad, straight prosternal sutures, closed mesocoxal cavities, and by two lateral carinae extending from the front to hind pronotal angles. The simple tarsi and claws are also characteristic.

The type species of this genus is *Tropihypnus bimargo* Reitter (Monobasic). *Crypnoidus setosus* Buysson, type species of *Crypnoidus* Fleutiaux had been found by Fleutiaux (by comparison of the type) to be a synonym of *T. bimargo* (Fleutiaux, 1932).

The ecology of this genus is not known, but Fleutiaux (1928) states that several species are found under stones along rivers.

The species now known were collected from areas in a semi-circular arc from India to North Viet Nam. Further data on this genus is needed from the interior regions of Tibet and China.

#### KEY TO THE SPECIES

1. Elytra attenuate, convex.....2  
Elytra subparallel, sides gradually convergent to apex, depressed.....3
- 2.(1) Pronotal punctuation coarse and isolated; pubescence white.....(9) *gardneri* Fleut.  
Pronotal punctuation coarse, crowded; pubescence yellow.....(10) *bicarinatus* Fleut.
- 3.(1) Scutellum with keel (Fig. 2); pronotal punctuation coarse, often confluent; body monocolored.....(1) *rungbongi* n. sp.  
Scutellum pointed at most (Fig. 3); punctuation various; abdomen never notched; body color various.....4
- 4.(3) Body distinctly bicolored (i.e., pronotum reddish)....5  
Body monocolored (i.e., pronotum same color as rest of body).....7
- 5.(4) Setae distinctly broad and flattened (Fig. 4), large, white.....(2) *bimargo* Reitt.  
Setae normally thin and wiry (Fig. 5), yellowish....6
- 6.(5) Hind angles stout, straight (Fig. 6); pronotal punctuation very dense, surface rugose..(3) *unique A*  
Hind angles rather acute (Fig. 7); pronotal punctuation somewhat dense, moderately impressed, surface smooth.....(4) *unique B*
- 7.(4) Pubescence white; frons strongly punctate; pronotum coarsely, not closely punctate; scutellum sparsely punctate; body rusty red-brown.....(11) *chatterjeei* Fleut.  
Pubescence yellow; frons various; pronotum generally closely, coarsely punctate; body color and scutellum various.....8
- 8.(7) Surface of pronotum deeply impressed, with coarse and dense punctures, generally somewhat rugose (Fig. 8); male with slender penis (Figs. 16, 17).....9

- Surface of pronotum only moderately impressed at most, density of punctation various, but never really dense so as to make surface rugose (Fig. 9); male with broad penis (Figs. 18, 19)..... 10
- 9.(8) Pronotal punctures large, coarse, and deep, surface strongly striate (Fig. 10); paramere of aedeagus with shelf (Fig. 16)...(5) *namsooa* n. sp.  
Pronotal punctures coarse and deep only, surface rugose, but not striate (Fig. 8); paramere of aedeagus without shelf (Fig. 17)....(6) *unique* C
- 10.(8) Color black, pronotal punctation dense, somewhat coarse (Fig. 9); penis lobed on sides (Fig. 18).....(7) *punjabae* n. sp.  
Color brown to brownish yellow; pronotal punctation moderately fine and moderately spaced (Fig. 11); penis arcuate only on sides (Fig. 19).....(8) *unique* D

### 1. *Tropihypnus rungboni* NEW SPECIES

(Figs. 2, 12, 13)

This species is distinguished best by the coarse and often confluent punctation of the pronotum, the scutellar keel, and the abdominal notches of the male. The genitalia are diagnostic.

*Male*.—Length 5.4–6 mm, width 1.9–2 mm; shape elongate, parallel-sided, body slightly depressed; piceous, legs and antennae flavous (sometimes rubescent), underside generally lighter; surface variable but generally rough, bright and shining; vestiture moderate, flavous (sometimes ruboflavous), setae wiry, semierect, underside with additional, moderately dense subvestiture of minute, wiry, decumbent, and lightly flavous setae.

*Head*.—Length about  $\frac{2}{3}$  of width (1.75/2.25), width nearly  $\frac{1}{2}$  that of pronotum; frons scarcely convex, frontal margin strong, somewhat protuberant between eyes; surface smooth and shining, punctures rather dense, coarse, and deep. Antennae attaining apex of pronotal hind angles; scape rather cylindrical but still expanded in general appearance; pedicel cylindrical about  $\frac{5}{8}$  length of cylindrical 3rd segment; 4th to 6th segments

feebly serrate; 7th to 10th segments more or less doubly serrate, slightly longer than pedicel; last segment oblong, slightly longer than 10th; relative segment lengths as follows, (2:1.25:2:1.6:1.6:1.6:1.6:1.5:1.5:1.4:1.6).

*Thorax.*—Pronotum wider than long (4.5/5); moderately arcuate in front, widest behind middle, strongly arcuate in front of hind angles; hind angles stout at base, acute at tip, divergent, with strong, sharp carina along outer edge that extends to inner side of anterior angles while gradually diverging from outer, lateral carina of pronotum; weak carina on inner edge at base, extending  $\frac{1}{5}$  way up base; front angles moderately acute, partly surrounding eyes, carinate as noted above. Disk feebly convex, sloping rather quickly towards base, median impression obsolete; punctation very dense, punctures coarse, deep, elongate, and confluent; surface laevis, extremely rugose; pubescence directed caudad, basal setae directed cephalad. Pleural region with dense, coarse, and deep punctures, apparently lucidus; setae directed cephalad. Pleural region with dense, coarse, and deep punctures; apparently bright and shining; setae directed cephalad, sparse subvestiture of minute, flavous setae. Prosternal lobe prominent, truncate, with strong, broad carina along anterior edge and sides, transverse impression behind feeble or absent; punctation dense, moderately coarse, surface smooth and shining; setae directed cephalad; prosternal mucro fairly straight (only feebly directed inwards). Metasternum smooth and shining, punctation moderately close and coarse, intermixed with dense micropunctation; setae directed caudad, subvestiture of fairly dense, lightly flavous setae. Scutellum flat, except for large and prominent keel at anterior end; shape oblong (2.15/2.75), except for truncated anterior edge; surface smooth and shining; closely, moderately punctate. Elytra 4 mm long, ratio of width to length (2.1/4.2); striae heavily punctate, especially in humeral area; intervals moderately punctate in center row, finely punctate on side rows (when punctures are present); surface smooth and shining.

*Abdomen.*—Smooth and shining; punctation dense, but only moderately impressed, more densely micropunctate; subvestiture moderately dense. Fifth sternum deeply notched on sides.

*Male genitalia*.—Trilobate, fused. Penis slender, ventral surface nearly complete, sides very gradually divergent from apex to base of lateral struts; <sup>4</sup> lateral struts slim, very elongate and slender, slightly and gradually arcuate medially near apex, seven times length of median strut;  $\frac{1}{3}$  length of penis; median strut moderately broad and elongate. Parameres slim, slender, broader in basal half; fused to penis at about apex of median strut; sides moderately arcuate, tapering both towards apex and to base. Pars basalis deeply concave, basal notches prominent.

*Female*.—Size generally larger, 7–5.9 mm (4.2 mm in one case); width about 2 mm. Antennae approximately one segment short of apex of pronotal hind angles. Fifth sternum lacking the notches characteristic of the male.

*Female genitalia*.—Bursa copulatrix elongate, broadly subdivided; anterior subdivision with numerous granules near apical end; posterior subdivision of bursa slightly tapering to diverticulum of spermathecal duct. Colleterial glands slightly larger than either subdivision of bursa. Accessory gland prominent, broad and cylinderate, slightly tapering to apex.

*Discussion*.—The male holotype has the following label: "Sikkim, Gopaldhara, Rungbong Vall., H. Stevens." The female allotype has the same data. Paratypes, 85 males, 90 females, as follows: Same data as Holotype: 77 males, 78 females. "Sikkim, Dikchu, Tista Vall., 13.iii.1920, H. Stevens" (one male), *ibid.* 14.iii.1920 *ibid.* (two males). "Sikkim, Namsoo, xi.1920, H. Stevens" (twelve females, five males).

The holotype, allotype, and  $\frac{2}{3}$  of the paratypes are in my collection and in the Purdue Entomology Research Collection.

## 2. *Tropihypnus bimargo* (Reitter, 1896)

(Figs. 1, 4)

*Paracardiophorus bimargo* Reitter, 1896, p. 235

<sup>4</sup>The term center struts has been vaguely used to indicate all the apodemes of the penis. Since the center, unpaired strut is of taxonomic importance; it is here referred to as the median strut; the paired struts are then termed lateral struts.









FIG. 1. *TROPHIHPNUS BIMARGO* REITTER



*Tropihypnus bimargo* Reitter (1905, p. 9; Fleutiaux (1932, p. 254); Schenkling (1925, pt. 80, p. 216); Gurjeva (1963, p. 31), (1966, p. 45)

*Quasimus setosus* Buysson (1934, p. 42) Syn.

*Tropihypnus bimargo* ab. *alatauensis* Jagemann, 1939, p. 70

This species is recognized by its bicolored appearance and the broad, flattened, whitish setae. Also distinctive is the rather large and flattened body, and the thin, shelf-like frontal carina.

**Female.**—Length 4.7–6 mm, width 1.7 mm; shape elongate, parallel-sided, body depressed; pronotum and antennae lightly orange, propleuron and legs tending to a flavous shade, rest of body fuscous to rufescent; punctation moderate, well spaced; surface smooth, generally micro-reticulate; vestiture moderate, niveous, decumbent, setae rather stout, underside with additional subvestiture of minute, wiry lightly flavous, decumbent setae of variable density.

**Head.**—Length about  $\frac{2}{3}$  of width (1.75/2.75), width  $\frac{1}{2}$  that of pronotum; frons flat, frontal margin strong, somewhat protuberant as a thin medially arcuate shelf between eyes; surface smooth and shining, micro-reticulate; punctures moderately scattered and deep. Antennae one segment shorter than apex of pronotal hind angles; scape normally expanded, slightly flattened; pedicel cylindrical,  $\frac{2}{3}$  length of cylindrical 3rd segment; 4th to 6th segments feebly serrate; 7th to 10th segments more or less doubly serrate, slightly longer than pedicel; last segment oblong, longer than pedicel; relative segment lengths as follows, (2.5 : 1 : 1.5 : 1.5 : 1.5 : 1.5 : 1.4 : 1.4 : 1.3 : 1.2 : 2).

**Thorax.**—Pronotum wider than median length (4.25/5.25); moderately arcuate in front, widest behind middle, arcuate in front of hind angles; hind angles stout at base, acute at apex, scarcely divergent, with strong, sharp carina along outer edge that extends to inner side of anterior angles while gradually diverging from outer lateral carina of pronotum; weak carina on inner side at base, extending  $\frac{1}{4}$  way up pronotal base; front angles moderately acute, partly surrounding eyes, carinate as noted above. Disk almost flat (scarcely convex), sloping gradually towards base, median impression obsolete; punctation

rather evenly, moderately distributed, punctures generally elongate; surface smooth and shining, micro-reticulate; pubescence directed caudad, basal setae directed cephalad. Pleural region with circular punctures, otherwise punctate as on pronotum; strongly micro-reticulate and thus less shiny; setae directed cephalad, sparse subvestiture of minute, flavous setae. Prosternal lobe prominent, with moderately strong broad carina extending along anterior edge and sides, bounded behind by transverse impression; punctuation moderate, but somewhat scattered; surface highly shiny and smooth; setae directed cephalad; prosternal mucro concave inwardly (dorsad), otherwise straight and simple. Metasternum smooth and shining; punctuation moderate, intermixed with sparse micropunctuation; setae directed caudad, subvestiture of dense, lightly flavous setae. Scutellum fairly flat, except towards prominent anterior edge; surface micro-reticulate, moderately punctate. Elytra 4 mm long, ratio of width to length (1.75/4); striae heavily, deeply punctate, especially in humeral area; intervals finely punctate, usually two (but sometimes one) rows of punctures in 3rd interval; surface micro-rugose.

*Abdomen*.—Micro-reticulate, otherwise smooth and shining; punctuation moderate, micropunctures denser; subvestiture dense, of wiry, flavous, and decumbent setae.

*Female genitalia*.—The specimens available, while not well preserved, seem similar to *unique B* and *T. nomsooa* in every respect.

**Male**.—Unknown.

*Discussion*.—Some notes on the ecology are provided by Gurjeva (1963, 1966).

*Type material*.—I have seen the single "Typus" from the Reitter collection, Magyar Nemzeti Museum, Budapest, Hungary. This Holotype has the following labels: "Issyk-kul," "Senicum!," an unreadable label, "*Paracardiophorus bimargo*, n. sp., 1896," "Gen. *Tropihypnus*, m.," "Typus, Coll. Reitter." I have no reason to question the identity of this species.

The type locality, Issyk-Kul, is in Turkestan, U.S.S.R.

*Distribution*.—I have seen only three specimens, all female (incl. type). One is also from Reitter's collection, the other

from the Staatliches Museum für Tierkunde, Germany. All localities as follows:

U.S.S.R.: Turkestan (1 female), Issyk-kul (1 female).

China: Sinkiang Province, Tien-Shau (1 female), 1946, coll. Prof. Dr. Fuchs.

*Comments.*—*T. bimargo* is very distinct, and highly decorative (Fig. 1). I do not know the variety *alatauensis* Jagemann. I have not seen the type of *Quasimus setosus* Buysson, nor that of *Crypnooidus setosus* Fleutiaux. Fleutiaux, in 1934, moved both these names into synonymy under *T. bimargo*, stating that the types were identical.

### 3. unique A

(Figs. 3, 5, 6, 14)

This form is recognized by its bicolored body, wiry yellow setae, and stout, straight, pronotal hind angles. The densely punctate, rugose pronotum also helps to distinguish it.

*Discussion.*—One specimen only, a male, with the following labels; "Tonkin: Bao-Ha, Oct., 1923, H. Stevens," "Sladen-Godman Trust Exped., B.M., 1924-329," "*Hypnooidus*, Fleutiaux, vid.." "*Tropihypnus*, C. M. F. von Hayek, det. 1965."

Bao-Ha is located in North Vietnam, near the Chinese border. This specimen is in the British Museum (Natural History), London, England.

*unique A* seems to represent a hitherto unknown species. The physical features given in the diagnosis and the male genitalia are quite distinct. Only a lack of additional specimens refrains me from formal designation. A complete description is on file with the ACSIC project at Purdue.

### 4. unique B

(Fig. 7)

The bicolored appearance, moderate punctation, slender yellowish setae, and acute hind angles are diagnostic. In addition, the pronotum is smooth and rather flat.

*Discussion.*—One specimen only, a female, with the following labels: "Hazara, N.W.F. Prov., Lower Kagan Valley, 3–5,000 ft., 24.v.1927," "*Tropihypnus* ex., C. M. F. von Hayek, det. 1965." The Kagan Valley is located in Pakistan. This specimen is in the British Museum (Natural History), London, England.

The closest relative is probably the previous specimen (*unique A*) discussed. But the pronotal punctation, hind angles, and general appearance seem so distant that *unique B* does not appear to be conspecific with *unique A* or any of the other forms listed in this paper. The lack of male genitalia for examination is a handicap. A complete description is on file with the ACSIP project at Purdue.

### 5. *Tropihypnus namsooa* NEW SPECIES

(Figs. 10, 15, 16)

The extremely large, coarse, and deep punctation of the pronotum, the yellowish wiry setae, and the uniformly fuscous color assist in identification. The broad shelf of the male parameres is immediately diagnostic.

**Male.**—Length 5 mm, width 1.5 mm; shape elongate, parallel-sided, body feebly convex; color fuscous, more rufescent on front and posterior edges, and underneath especially on pronotal hind angles, legs and antennae flavous; punctation generally coarse, rather dense; surface generally bright and shining; vestiture moderate, flavous, setae semi-erect and rather coarse, underside with additional subvestiture of minute, wiry lightly flavous, and decumbent setae.

**Head.**—Length about  $\frac{1}{2}$  of width (1.25/2.5), width  $\frac{3}{4}$  that of pronotum: frons feebly convex, frontal margin strong, only moderately protuberant as a thick ridge between eyes; surface micro-reticulate, but still smooth and shining; punctures moderately impressed, rather closely spaced. Antennae reaching apex of pronotal hind angles; scape rather cylindrical; pedicel cylindrical,  $\frac{4}{5}$ th length of cylindrical 3rd segment; 4th to 6th segments feebly serrate; 7th to 10th segments more or less

doubly serrate, slightly longer than pedicel; last segment oblong, same length as 10th; relative segment lengths as follows (2:1:1.25:1.2:1.5:1.25:1.25:1.25:1.25:1.25:1.25:1.25).

*Thorax*.—Pronotum wider than median length (4/3.2); arcuate in front, widest behind middle, strongly arcuate in front of hind angles; hind angles acute, divergent, with strong, sharp carina along outer edge that extends to inner side of anterior angles while gradually diverging from outer lateral carina of pronotum; weak carina on inner side at base, extending  $\frac{1}{3}$  way up pronotal base; front angles only moderately acute, partly surrounding eyes, carinate as noted above. Disk moderately convex, sloping rather sharply towards base, median impression obsolete; punctation moderately dense, punctures large and very coarse, deeply set, but separate, forming somewhat irregular striations; surface bright and shining, but rather rugose; pubescence directed caudad, basal setae directed cephalad, subvestiture of scattered minute setae; surface smooth and shining. Prosternal lobe prominent, with moderately strong broad carina extending along anterior edge and sides, transverse impression obsolete; punctation only moderately dense and coarse, but deep; surface smooth and shining; setae and microsetae intermixed, rather scattered, directed cephalad; prosteral mucro somewhat concave inwardly (dorsad), otherwise straight and simple. Metasternum smooth and shining; punctation moderately dense, moderately coarse and deep, intermixed with moderately dense micropunctation; setae directed caudad, subvestiture of moderately dense minute setae. Scutellum fairly flat, except for truncated anterior edge; surface smooth and shining, moderately finely punctate. Elytra 3.2 mm long, ratio of width to length (1.5/3.2); striae heavily and deeply punctate, especially in humeral area; intervals more finely punctate, usually two, but sometimes one row of punctures; surface lucidus.

*Abdomen*.—Bright and shining; punctation rather dense, but moderate in sculpture, micropunctation denser, supporting a dense subvestiture of minute setae.

*Male genitalia*.—Trilobate, articulate; penis slender, ventral surface obsolete; scarcely papilliform at apex; sides gradually

divergent to base of lateral struts; lateral struts slim, slender, divergent from base for  $\frac{1}{2}$  of length, thence convergent to apex, twice length of median strut, the latter present as a broad lobe. Parameres exceptionally broad and thick, slender only at apex; sides feebly arcuate, broad laminate extension near apex. Pars Basalis deeply notched on sides, elongate.

**Female.**—Similar to male.

*Female genitalia.*—Bursa copulatrix elongate, bag-like. Colleterial glands near terminal end of bursa, small, delicate, and indistinct. Prominent and cylindrical accessory gland at end of bursa; diverticulum of spermathecal duct present just before accessory gland; both processes arching over colleterial glands and median oviduct.

*Type material.*—Two specimens; the male *holotype* and female *allotype*, both with the same date, as follows: "Sikkim: Namsoo, xi:1920, H. Stevens." Both types are in the British Museum (Natural History), London, England.

*Comments.*—Apparently found in association with *T. rung-bongi* by Stevens, and (although distinct and unrelated) easily overlooked.

## 6. unique C

(Figs. 8, 17)

This species is identified by the male genitalia, but readily separated by a uniform reddish-brown color, yellow setae, coarse and deep pronotal punctation, and a non-striate pronotal surface.

*Material.*—One specimen only, a male, with the following labels: "Kaldhunga, Baldwani Div., 26, 3, '23, H.G.C.," "H. G. Champion Coll., B.M., 1953-1956," "*Tropihpynus* sp., C. M. F. von Hayek, det. 1965." The locality, Kaldhunga, is in India. This specimen is in the British Museum (Natural History), London, England.

*Comments.*—This specimen is externally similar to *T. punjabae* and *T. namsoo*. The pronotal punctation and male genitalia are unique, and it also has dense scutellar punctation. This is probably a separate species, but formal recognition is



reserved due to lack of additional specimens. A complete description is on file with the ACSIP project at Purdue.

### 7. *Tropihypnus punjabae* NEW SPECIES

A piceous color, dense (sometimes teardrop-shaped) punctation on a smooth pronotum, and the male genitalia suffice to distinguish this species.

**Male.**—Length 5–4.5 mm, width 1.5–1.2 mm; shape elongate, parallel-sided, body only moderately depressed; piceous, legs and antennae flavous, but pronotal angles and sides of ventral aspect with rubescent tinge; punctation generally dense, punctures verging on coarse; surface generally smooth and shining; vestiture moderate, setae wiry, reddish-yellow to completely flavous, semierect, underside with additional subvestiture of minute, wiry, lightly flavous and decumbent setae of moderate density.

**Head.**—Length about  $\frac{2}{3}$  of width; frons scarcely convex, frontal margin strong, only moderately protuberant as a thick ridge between eyes; surface smooth and shining (sometimes feebly micro-reticulate); punctures dense, sometimes confluent, rather coarse and deep. Antennae scarcely exceeding apex of pronotal hind angles; scape normally expanded, slightly flattened; pedicel cylindrical  $\frac{2}{3}$  length of cylindrical 3rd segment; 4th and 6th segments feebly serrate; 7th to 10th segments more or less doubly serrate, each slightly longer than pedicel; last segment oblong, about size of 10th segment; relative segment lengths as follows (2:1:1.4:1.4:1.3:1.3:1.3:1.3:1.4:1.5).

**Thorax.**—Pronotum wider than long (4.1/3.5); moderately arcuate in frons, widest behind middle, feebly arcuate in front of hind angles; hind angles stout at base, prolonged and acute at apex, divergent, with strong sharp carina along outer edge that extends to inner side of anterior angles while gradually diverging from outer lateral carina of pronotum; weak carina on inner side at base, extending  $\frac{1}{3}$  way up pronotal base; front angles sharply acute, partly surrounding eyes, carinate as noted above. Disk feebly convex, sloping moderately towards base, median impression obsolete; punctation dense, not especially

coarse, punctures often lacrimiform; surface smooth and shining; pubescence directed caudad, basal setae directed cephalad. Pleural region with rather circular, dense and deep punctation; micro-reticulate on edges but otherwise smooth and shining setae directed cephalad, sparse subvestiture of minute, flavous setae. Prosternal lobe prominent, with strong, broad carina along anterior edge and sides, transverse impression behind feeble or absent; punctation dense to moderate; surface smooth and shining; setae directed cephalad; prosternal micro concave inwardly (dorsad), otherwise straight and simple. Metasternum smooth and shining; punctation dense and rather deep, intermixed with dense micropunctation; setae directed caudad, subvestiture of dense, lightly flavous setae. Scutellum fairly flat except at anterior end with prominent tubercle; shape oblong (2.2/2.4), except for truncated anterior edge; surface smooth and shining; rather finely punctate. Elytra 3 mm long, ratio of width to length (4.1/9.5); striae heavily punctate, especially in humeral area; intervals moderately punctate in center row (always present), occasional side rows of fine punctures; surface generally smooth and shining.

*Abdomen*.—Smooth and shining; micropunctate, intermixed with moderate and closely spaced punctures; subvestiture moderately dense.

*Male genitalia*.—Trilobate, articulate. Penis broad at base, somewhat slender at apex, this simple (never papilliform); ventral surface obsolete; sides gradually divergent to moderate lobe near base of lateral struts; lateral struts slim, slender, and straight, twice length of stout median strut. Parameres rather broad and thick, very gradually flattened at apex; lobes prominent and acute; sides moderately arcuate near apex. Pars basalis scarcely notched on sides, somewhat elongate.

*Female*.—Similar to male.

*Female genitalia*.—Bursa copulatrix elongate, bag-like. Colleterial glands near terminal end of bursa, small, delicate, and indistinct. Prominent cylindrical accessory gland at end of bursa; diverticulum of spermathecal duct just before accessory gland; both processes arching over colleterial glands and median oviduct.

*Type material.*—The male *holotype* and female *allotype* with the same data, as follows: "Jibhi, Seraj, Punjab, 6,000 ft., H.G.C. v. 1926," "H. G. Champion Coll., B.M., 1953-1956." Paratypes, 15 males, 6 females, 14 undetermined; as follows:

Same data as above: 5 males. "Sikkim, Gopaldhara, Rungbong Vall., H. Stevens" (10 males, 6 females), 14 undetermined).

The type locality, Jibhi, is in India. The *Holotype*, *Allotype*, and most of the *Paratypes* are in the British Museum (Natural History), London, England. About one third of the *paratypes* are in my collection or in the Purdue Entomology Research Collection.

### 8. *unique D*

(Figs. 11, 19)

The light chestnut color, yellow, wiry setae, moderate to fine punctuation, and the male genitalia serve to separate this form.

*Type material.*—One specimen only, a male, with the following data: "India, Punjab, Simla, E. C. Ansorge, B.M., 1922-355," "*Hypnoidus*, Fleutiaux, vid." This specimen is in the British Museum (Natural History) London, England.

*Comments.*—The distinctive fulvescent color may be characteristic of this form. It is easily separated by punctuation from *T. punjabae*, and the male genitalia seem sufficient to show that *unique D* is a different species. However, there is a remote chance that it is conspecific to *T. chatterjeei*, which I have not seen. In addition, there is only one specimen, so it seems wisest at this time to defer naming of this form. A complete description is on file in the ACSIC program at Purdue.

### 9. *Tropihypnus gardneri* (Fleutiaux, 1928)

*Crypnoidus gardneri* Fleutiaux, 1928, p. 253

I have not seen any material of this species. The description is translated from the original and slightly modified. The type locality, Kotgarh, is in India.